Periscope.

CLINICAL NEUROLOGY.

Peripheral Neuritis following the Use of Arsenic in Chorea. F. C. Railton (Medical Chronicle, February, 1900).

This study is based on four patients with chorea treated by arsenic at the Manchester Clinical Hospital, in whom serious symptoms of paralysis developed. The ordinary toxic symptoms of arsenic; disturbance of the stomach, diarrhea, puffiness of the eyes, etc., were noticed in only one of the patients, and the paralysis, which affected the lower extremities principally, came on gradually several days or even weeks after termination of treatment, and in most instances after the return of the patient home. All the patients eventually recovered after a protracted convalescence. Because of the slow elimination of this metal from the system, the author concludes that an aggregate of 6.3 grains of arsenious acid, even when distributed over a period of three weeks, is sufficient to produce peripheral neuritis in a child. Jelliffe.

Zur Symptomatik der Geschwülste des Balkens (Symptomatology of Tumors of the Corpus Callosum). H. Zingerle (Jahrbücher für Psychiatrie und Neurologie, Vol. 19, 1900, p. 367).

Clinical history: Man fifty years old. Beginning of symptoms seven weeks before with sudden dulling of consciousness, stupor, inability to stand erect, weakness in legs, sleepiness, and mental confusion. Present condition: somnolent, confused, marked amnesia, mental weakness, expression fixed, speech slow, no aphasia, slow pupil reaction, bilateral optic neuritis, tremor of tongue, weakness in all extremities, inability to stand or walk, increased reflexes, then fever, muscle spasm, progressive weakness in muscles more marked on the right side, exitus. Autopsy: Dura adherent, pia somewhat stretched, thickened here and there, hyperemic. The corpus callosum bulged in its middle and of a reddish color. On opening the lateral ventricle in a line corresponding with the middle of the corpus callosum a tumor mass, 4 cc. long and 3 cc. broad was found. This tumor is of firm consistency and reddish in color. The mass extends in front to the septum pellucidum and bulges laterally into the lateral ventricles in consequence of which they appear somewhat narrowed, as is likewise the case in the third ventricle. The ependyma of the corpus callosum appears somewhat thickened, the brain substance soft, somewhat hyperemic, the cortex somewhat small, with widened sulci. In other organs nothing abnormal. The tumor was diagnosed as a round-cell sarcoma, rich in blood vessels. The anatomical findings showed clearly that the tumor developed at the region of the right taenia of the thalamus opticus, and secondarily involved the corpus callosum. Some of the clinical features of a tumor in this region are as follows: The absence of pressure symptoms other than that of optic atrophy which is found more often in callosal tumors than elsewhere. A slight paresis of the muscles together with an absence of cranial nerve involvement. The paresis is due to the pressure on the motor tract in the internal capsule. The one definite focal symptom of a callosal tumor, which can be explained by the direct effect upon its fibers is the psychical state of stuporous dementia, due to the injured association function of the fibers of the corpus callosum. It is also probable that in addition to the psychical function of the corpus callosum, it has to do with the innervation of voluntary muscles and their co-ordination in homolateral movements of the body. This has been experimentally proven in animals by Mott. In this case there was an extreme disturbance of equilibrium together with ability to use a single extremity in isolated movements. This symptom has been observed before in tumors in this region. The co-ordination disturbance which affects chiefly those muscular actions which have to do with retention of equilibrium is a focal symptom of callosal tumors and the name callosal ataxia (*balken ataxie*), may be given to it. The poverty of movement in this case may be ascribed to the diminished physiological stimuli which normally pass through the fibers of the corpus callosum. In doubtful cases of tumors in this region this last symptom may be of diagnostic utility. SCHWAB.

OBSERVATIONS ON BRAIN SURGERY. Geo. W. Crile (Medical Record, February 17, 1900).

As a result of a large number of experimental researches on the brains of animals, the author says, that the immediate effect of increased intracranial pressure is not marked until the brain is compressed for from five to seven per cent. of its volume. Respiration is affected sooner and more profoundly than the blood pressure. Respiration is at first slowed, then arrested. The higher the blood pressure, the higher is the intracranial pressure necessary to cause respiratory paralysis, and when such arrest has occurred, if the blood pressure is increased respiration may be resumed. In the presence of respiratory arrest, if artificial respirations are produced blood pressure usually rises, and natural breathing may reappear.

Increased intracranial pressure causes slowing of the heart, followed by intermissions and later complete arrest. When pressure persists, the inhibitory mechanism fails, and very rapid heart action follows. The intracranial and the blood pressure vary inversely. With the brain under pressure, less anesthetic is required to cause surgical anesthesia, and the deeper the anesthesia the earlier and more abruptly respiration fails. When respiration or circulation or both are affected by conditions causing increased intracranial pressure, it is fair to assume that the brain has suffered compression equal to five per cent. of its volume, except in cases where their centers in the medulla are directly affected. A pulse frequently alternating between a very rapid and a very slow action, indicates an exhausted cardiac center, a fatal prognosis, and a very strong contraindication to operative procedure. At the same time the vasomotor system is exhausted. During operation an assistant should always be ready to do artificial respiration, and ice and hot water should be at hand for alternate application to chest and abdomen as respiratory stimulants. If respiration ceases and cannot be renewed, the skull should be opened as quickly as possible and the pressure relieved, when normal breathing will almost surely recur. The first effect of blows on the skull, gunshot wounds, rapidly increased intraventicular pressure, etc., is respiratory failure, while the heart continues beating for some minutes. Therefore artificial respiration is an important first-aid in brain injuries, and since increase of blood pressure favors the return of spontaneous breathing, proper stimu-